



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,035	02/20/2002	Yaakov Navon	IL920020003US1	9494

7590 05/16/2005  
Stephen C. Kaufman  
Intellectual Property Law Dept.  
IBM Corporation  
P.O. Box 218  
Yorktown Heights, NY 10598

EXAMINER
----------

COUSO, JOSE L

ART UNIT	PAPER NUMBER
----------	--------------

2621

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/082,035

Applicant(s)

NAVON ET AL.

Examiner

Jose L. Couso

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. Claims 12-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 24, 2005.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-11 and 17-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (U.S. Patent No. 6,453,073).

With regard to claim 1, Johnson describes identifying kernels reflected by at least one of the operators selected from the group consisting of:  $P(x-w,y) - P(x,y) > t$  and  $P(x+w,y) - P(x,y) > t$ ; and  $P(x,y-w) - P(x,y) > t$  and  $P(x,y+w) - P(x,y) > t$ ; and  $P(x+d,y+d) - P(x,y) > t$  and  $P(x-d,y-d) - P(x,y) > t$ ; and  $P(x-d,y+d) - P(x,y) > t$  and  $P(x+d,y-d) - P(x,y) > t$  (refer for example to column 34, lines 25-40, column 39, lines 20-43 and

Art Unit: 2621

column 43, line 52 through column 44, line 17); associating the kernels with a first layer (refer for example to column 27, line 51 through column 28, line 35); and classifying as a second layer, the pixels which are not associated with the first layer (refer for example to column 28, lines 36-40).

As to claim 2, Johnson describes wherein the first layer is a text or graphics (refer for example to column 25, lines 40-44).

In regard to claim 3, Johnson describes wherein the second layer is a background (refer for example to column 28, lines 36-40, visually unimportant texture regions correspond to applicant's background).

With regard to claim 4, Johnson describes wherein the first layer is darker than the second layer (refer for example to column 26, lines 55-59, Johnson includes color depth among the image classifications, the color depth encompasses one layer being darker than another layer).

As to claim 5, Johnson describes wherein the first layer is lighter than the second layer (refer for example to column 26, lines 55-59, Johnson includes color depth among the image classifications, the color depth encompasses one layer being lighter than another layer).

In regard to claim 6, Johnson describes wherein identifying kernels comprises performing a binarization technique (refer for example to column 25, lines 42-51).

With regard to claim 7, Johnson describes wherein identifying kernels comprises performing text binarization (refer for example to column 25, lines 42-51).

As to claim 8, Johnson describes wherein identifying kernels comprises examining grey characteristics of pixels in an expansion of the kernels, wherein the expansion is less than or equal to 3 times  $w$ , wherein  $w$  is a typical stroke width of the image (refer for example to column 27, lines 1-8 and column 43, line 52 through column 44, line 33).

In regard to claim 9, Johnson describes further comprising the step of storing the first layer (refer for example to column 9, lines 6-20).

With regard to claim 10, Johnson describes further comprising the step of compressing the first layer with a high resolution compression technique (refer for example to column 9, lines 62-63).

As to claim 11, Johnson describes further comprising the step of compressing the second layer with a high lossy compression technique (refer for example to column 9, lines 60-61).

With regard to claim 17, Johnson describes identifying first and second image content and separately compressing the first and second image content (refer for example to column 27, lines 43-50).

As to claim 18, Johnson describes wherein the first and second content comprise image foreground and image background (refer for example to column 25, lines 40-44 and refer for example to column 28, lines 36-40, visually unimportant texture regions correspond to applicant's background).

In regard to claim 19, Johnson describes comprising employing a higher resolution compression technique to compress the foreground content as compared with the background content (refer for example to column 9, lines 55-63).

With regard to claim 20, Johnson describes a scanner for creating a digital image (figure 1, element 100); a processor for separating the digital image into a first and second layer, and for compressing the first layer with a first compression technique and for compressing the second layer with a second compression technique (see figure 3, elements 126, 128 and 130, and refer for example to column 27, line 51 through column 28, line 35 and to column 28, lines 36-40) and a memory for storing the compressed first and second layers (see figure 1, elements 106 and 114, and figure 2, elements 120, 122 and 124, and refer for example to column 9, lines 6-20).

As to claim 21, Johnson describes wherein the processor comprises a means for identifying kernel reflected by at least one of the operators selected from the group consisting of:  $P(x-w,y) - P(x,y) > t$  and  $P(x+w, y) - P(x,y) > t$ ; and  $P(x, y-w) - P(x,y) > t$  and  $P(x, y+w) - P(x,y) > t$ ; and  $P(x+d, y+d) - P(x,y) > t$  and  $P(x-d, y-d) - P(x,y) > t$ ; and  $P(x-d, y+d) - P(x,y) > t$  and  $P(x+d, y-d) - P(x,y) > t$  (refer for example to column 34, lines 25-40, column 39, lines 20-43 and column 43, line 52 through column 44, line 17); and associating the kernels with a first layer (refer for example to column 27, line 51 through column 28, line 35).

With regard to claim 22, Johnson describes wherein the means for identifying is a text binarization technique (refer for example to column 25, lines 42-51).

In regard to claim 23, Johnson describes wherein the processor comprises a compression means for compressing the first layer with a high resolution compression technique (refer for example to column 9, lines 62-63).

With regard to claim 24, Johnson describes wherein the processor comprises a compression means for compressing the second layer with a high lossy compression technique (refer for example to column 9, lines 60-61).

As to claim 25, Johnson describes wherein the processor comprises restoration means for creating a restored digital image from the compressed first and second layer (as clearly illustrated in figure 2, and as describe in column 9, lines 21-41).

In regard to claim 26, Johnson describes wherein the compressed first layer comprises, a binary mask of the foreground layer, compressed grey level foreground layer data and quantization grey levels (refer for example to column 27, lines 1-8).

With regard to claim 27, Johnson describes wherein the compressed grey level foreground layer data is stored a two bit buffer (refer for example to column 27, lines 1-8).

As to claim 28, Johnson describes wherein the compressed grey level foreground layer data is stored a one bit buffer (refer for example to column 27, lines 1-8).

In regard to claim 29, Johnson describes wherein the quantization grey levels comprises four levels (refer for example to column 27, lines 1-8).

With regard to claim 30, Johnson describes wherein the quantization grey levels comprises two levels (refer for example to column 27, lines 1-8).

Art Unit: 2621

As to claim 31, Johnson describes a computer software product, comprising a computer-readable medium in which program instructions are stored, which instructions when read by the computer, separates an image into a first and second layer, and compresses the first layer with a first compression technique and the second layer with a second compression technique (refer for example to column 45, lines 10-22 and column 27, line 51 through column 28, line 40).

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stoffel, Janeway, III, Lavallee et al., Boon, Johnson and Koz all disclose systems similar to applicant's claimed invention.

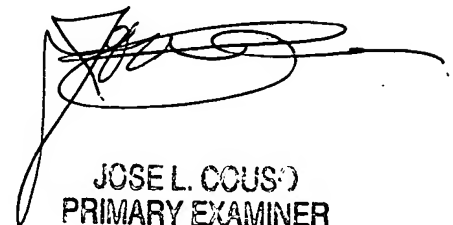
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose L. Couso whose telephone number is (703) 305-4774. The examiner can normally be reached on Monday through Friday from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (703) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the USPTO contact Center whose telephone number is (703) 308-4357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jlc  
April 25, 2005



JOSE L. COUSO  
PRIMARY EXAMINER